

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JANG-HOON YOO and PYONG-YONG SEONG

Appeal No. 1998-2009
Application No. 08/508,250

ON BRIEF

Before KRASS, JERRY SMITH and HECKER, ***Administrative Patent Judges.***

HECKER, ***Administrative Patent Judge.***

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 8, 11 and 12, all claims pending in this application.

The invention relates to the use of an optical modulator for recording information on an optical disk and an optical pickup for the reproduction of recorded information. In particular, as exemplified in Figure 3, a light source (1), a pair of lenses (2 and 3), and an optical modulator (4), are

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arranged such that the distance between the pair of lenses is shorter than the sum of the focal lengths of the pair of lenses. Representative independent claim 1 is reproduced as follows:

1. An optical modulating device comprising:

a light source;

an optical modulator; and

a pair of lenses arranged along a light path between said light source and optical modulator, including a collimating lens and a focal lens for focusing light generated from said light source into a spot on the center of said optical modulator,

wherein said pair of lenses are so arrayed that the distance between said pair of lenses is shorter than the sum of the focal lengths of said pair of lenses.

The Examiner relies on the following references:

Tatsuno et al. (Tatsuno)	5,377,212	Dec.
27, 1994		
Kobayashi et al. (Kobayashi)	5,475,537	Dec.
12, 1995		(filed
Feb. 28, 1994)		

Claims 1 through 8, 11 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tatsuno in view of Kobayashi. Rather than reiterate the arguments of

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Appellants and the Examiner, reference is made to the brief,
reply brief and answer for the respective details thereof.

OPINION

After a careful review of the evidence before us, we will not sustain the rejection of claims 1 through 8, 11 and 12 under 35 U.S.C. § 103.

The Examiner has failed to set forth a ***prima facie*** case. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the reasonable teachings or suggestions found in the prior art, or by a reasonable inference to the artisan contained in such teachings or suggestions. ***In re Sernaker***, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983).

"Additionally, when determining obviousness, the claimed invention should be considered as a whole; there is no legally recognizable 'heart' of the invention." ***Para-Ordnance Mfg. v. SGS Importers Int'l, Inc.***, 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995) (***citing W. L. Gore & Assocs., Inc. v. Garlock, Inc.***, 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983), ***cert. denied***, 469 U.S. 851 (1984)).

With respect to independent claims 1 and 5, the Examiner reasons the Tatsuno discloses the claimed invention, as depicted in Figure 17, except that Tatsuno uses a single lens instead of the claimed pair of lenses. The Examiner notes that Kobayashi discloses an objective lens system including a pair of lenses (3 and 2 in Figure 1) for focusing light from a laser light source into a spot (final rejection-page 2). The Examiner states:

To one of ordinary skill in the art at the time of the invention it would have been obvious to replace the objective lens of Tatsuno with the lens system as taught by Kobayashi for focusing the light from the light source into a spot on the optical modulator thereby improving accuracy over a range of temperature and distance variations while maintaining a desired imaging magnification ratio and maintaining the distance between the object and the image (see column 4 lines 23-30). Note in example 1 of Kobayashi the focal length of the collimating lens $f_c=26.45$ and the focal length of the objective lens $f_o=3.401$, therefore $f_c+f_o=29.951$ which is greater than the distance between the lenses, $D'=12.90$. [Final rejection-pages 2 and 3.]

Appellants argue strenuously that, even if Tatsuno and Kobayashi were combined, all claim limitations would not be met. In particular, lens 3 of Kobayashi is not a collimating

lens as claimed and alleged by the Examiner. Appellants contend that lens 3 is a coupling lens (so designated at column 1, line 45) and state:

[T]he coupling lens of the Kobayashi et al. patent is not the same as the collimating lens used in the present invention . . . [brief-page 6].

The Examiner responds by highlighting an apparent contradiction or confusion in Kobayashi, thus blurring any distinction between a collimating lens and a coupling lens. The Examiner notes first, that lens 6 of Figure 2(a) is called a collimating lens at column 1, lines 28-31, and a coupling lens at column 6, lines 23-26. Second, the Examiner notes that Figure 3 (Figure 2(c) is meant), element 3 of Kobayashi is **depicted** as a collimator, but at column 1, lines 45-46, it is referred to as a coupling lens. (Answer-pages 5 and 6.)

The only contradiction or confusion we find, is that of the Examiner's reading of Kobayashi. As to the Examiner's first contention, lens 6 of Figure 2(a) **is** a collimating lens as recited at column 1, lines 28-31. This is not contradicted at column 6, lines 23-26, because, when read in the context of the previous paragraph, the optical system of Figure 2(a) is

being **compared** to a coupling lens system. As to the Examiner's second contention, we do not find element 3 of Figure 2(c) (or for that matter Figure 1) **depicted** as a collimator. Both figures show the emerging light as continuing to diverge, as opposed to being collimated.¹

Accordingly, we agree with Appellants that the collimating lens of both independent claims is not met by the Examiner's combination of references.

Since Kobayashi's Figure 1 cannot be relied upon (it does not have a collimating lens), Kobayashi's Example 1 cannot be relied upon for the claimed distance between the pair of lenses. Furthermore, although the distance of Example 1 (cited by the Examiner) was not contested by Appellants, we have difficulty accepting this as meeting the claimed distance between the pair of lenses. The Examiner cites "d" as 12.90 being the operative distance. It is unclear from Kobayashi, exactly what "d" represents. However, "d" of 12.90 is related

¹ We note that Appellants' collimating lens 2 in Figure 3 shows the emerging light as converging instead of being collimated. Since the specification clearly supports lens 2 as being a collimator, this figure should be corrected in accordance with 37 CFR § 1.83(a).

to **surface number 2**, not **lens number 2**. If surface numbers were synonymous with lens numbers, there is no explanation for surface numbers 1 and 4 through 6 because there are no disclosed lenses 1 and 4 through 6. Thus, surface number 2 is not len number 2. Additionally, the distance numbers do not add up. The total distance between the image and the object ($U=30.00$) does not equal the sum of the relevant distances $f_c+f_o+d=42.76$ (not 30.00). Accordingly, even if Kobayashi were shown to use a collimator as lens 3, or an equivalent thereof, the claimed distance between the pair of lenses has not been shown.

Appellants further argue:

Thus, one would not be motivated to use the more expensive lens system of the Kobayashi et al. patent as a replacement for a single lens of the Tatsuno et al. patent without a suggestion in the prior art of a problem or its solution, or that this more expensive lens system would provide an improvement outweighing the increased cost. [Brief-page 8.]

We agree with the Examiner's response. The motivation to combine references need not be the same as Appellants'. Also, we note, Kobayashi does cite cost considerations as being outweighed by other factors (column 3, lines 44-48). That

being said, Kobayashi discloses that the single lens system of Figure 2(b) (and accordingly Tatsuno) is in popular use with numerical apertures (NA) of less than 0.45. However, problems occur when NA is greater than 0.47. (Column 1, lines 53-63.) Thus, not knowing the NA of Tatsuno, we do not know if Kobayashi's improvement (for variations in temperature, etc., as articulated by the Examiner) would be a motivating factor for a combination with Tatsuno.

On the other hand, if Tatsuno's NA were known to exceed 0.47, Kobayashi discloses that the collimating lens system of Figure 2(a) is in common use (column 3, line 66 to column 4, line 5). Using this reasoning (and motivation) to provide a lens pair with a collimating lens for Tatsuno, we have lost any disclosure for obtaining the claimed distance between the pair of lenses. Kobayashi's Example 1, used by the Examiner to provide the claimed distance, was based on a lens system which does not include a collimating lens (Figure 1). Thus, we are not persuaded by the Examiner that sufficient motivation has been shown for the combination.

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We acknowledge that the Examiner cites Figure 19 of Tatsuno as a two lens (pair) system (answer-page 5). However, contrary to the Examiner's contention, neither expander lens 136 nor condensing lens 137 meets the collimating lens claimed, nor is the claimed distance between the lenses satisfied.

The Federal Circuit states that "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." ***In re Fritch***, 972 F.2d 1260, 1266 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992), ***citing In re Gordon***, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). "Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor." ***Para-Ordnance Mfg. v. SGS Importers Int'l***, 73 F.3d at 1087, 37 USPQ2d at 1239, ***citing W. L. Gore & Assocs., Inc. v. Garlock, Inc.***, 721 F.2d at 1551, 1553, 220 USPQ at 311, 312-13.

In view of the forgoing, we will not sustain the Examiner's rejection of independent claims 1 and 5.

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The remaining claims on appeal also contain the above limitations discussed in regard to claim 1 and 5 and thereby, we will not sustain the rejection as to these claims.

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We have not sustained the rejection of claims 1 through
8, 11 and 12 under 35 U.S.C. § 103. Accordingly, the
Examiner's decision is reversed.

REVERSED

ERROL A. KRASS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
JERRY SMITH)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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